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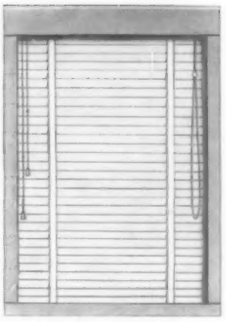

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AUDIOVISUAL INSTRUCTION

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the EDITOR'S notebook

IN LOOKING at the state education journals that pass through my office, I am pleased to note a number of our AV people writing articles and preparing AV bibliographies. It seems to me that within the last year considerably more attention has been given to our area in these state publications. I hope more of you will consider this important avenue of service.

• • •

John Kennan of SVE has called to my attention the 1959 session of the National High School Institute at Northwestern University June 28-August 1. Mr. Kennan says the Institute can be of "real benefit to some student you know who is considering teaching as a career." Of Mrs. Joan Smutny who will direct the education division, he writes: "In addition to her work at the University, Mrs. Smutny is a distinguished teacher of English at New Trier High School. Her abilities are widely known and fully recognized."

A limited number of scholarships are available for students needing financial assistance. For further information (in the form of an attractively illustrated 28-page booklet) write Northwestern University, Evanston, Illinois.

• • •

All DAVI members have recently received a copy of *How Good Are Your Schools?* a publication of the Council of Instruction of which your organization is a member. I am sure you will find this 23-page leaflet useful in communicating with parents and citizens in your community. Interest in education has never been greater than at present and it behooves us as leaders in this field to help citizens ask questions of significance about their schools. (Ten copies for $1; 100 for $7. Write to Publications Sales, NEA.)

Another recent publication which asks questions to guide PTA fact-finders is *Looking in on Your School*, published by the National Congress of Parents and Teachers, 700 North Rush Street, Chicago 11.

• • •

In January some 5000 scientists and science educators gathered in Washington for the Annual Convention of the American Association for the Advancement of Science. This year considerable attention was given to audiovisual materials and techniques. A science theater was a special feature. Continuous screenings of science films (including prize-winning foreign ones) drew standing-room-only crowds. Also featured was a new TV projector said to produce a bright and sharp 12x16-foot color picture.

• • •

The NEA Council on Instruction met in Williamsburg December 12-14, a time which coincided with the heaviest snowfall in Southern Virginia in many a year. The "retreat" was planned to permit members of the Council and a number of nationally recognized consultants to explore two current problem areas: What Are the Problems and Issues Pertaining to Testing and Evaluation in American Education? and, The National Interest and the School Curriculum. Discussions on the former related chiefly to standardized tests and revealed an opinion among some educators that there is a tendency for standardized tests to shape the curriculum rather than the curriculum to determine testing procedures. With the increased awareness of the need to identify the academically talented and the desire to upgrade the quality of high school education, the testing area may become increasingly important.

Most of the major subject fields are hard at work on curriculum revision. In addition, statements have been issued proposing a degree of common curricular experience in the nation's schools. Paul Hanna, professor of education at Stanford, has gone so far as to suggest that we need a design for a national curriculum. As you can imagine some very heated arguments took place.

The Council on Instruction will soon be selecting one or more major projects to work on in the coming year. The program will no doubt involve some aspects of testing or of the problem of placement, sequence and time allotment of content in the curriculum for the 12-year school. —A.L.H.

Coming in March

Next month's issue will de divided between articles on new developments in educational television and "convention readiness." Watch for several articles on open-circuit ETV; also for the last word on the Convention program.

See Photo Credits page 69

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First Aussie

DAVI is proud to announce its first Australian member, E. F. De Hagen, who writes from the Audio-Visual Language Laboratory in Carlton, Victoria. Mr. De Hagen was invited to join when he contacted the national office requesting tearsheets of an article on language laboratories appearing in our February 1958 issue. His membership application is accompanied by a chatty letter in which he promises to send a brief résumé of audiovisual activities "down under" for our international issue in May. Mr. De Hagen, who is eager to have information on the technical aspects of setting up a language laboratory, can be reached at: Audio-Visual Language Laboratory, 236 Palmerston Street, Carlton (near the University), Victoria, Australia.

Miller Declares "Operations Special Nudge"

AS WE GO TO PRESS, National Membership Chairman Clyde Miller announces that he has launched "Operations Special Nudge" for February and proclaims February the National Audiovisual Month for Attaining DAVI Members. In his letter to state membership chairmen Dr. Miller writes: "The membership drive is progressing nicely, and credit goes to the many fine people like yourself who are really putting effort into it and getting results. But we need to do even better if we are to attain our goal of 5000 members. I am asking that we redouble our efforts and make a special drive during the month of February. Possibly this means that we will need to enlist additional workers everywhere to speed up the membership drive. If you think this feasible I suggest you be the *master delegator* in your area. With your cooperation I think we can make February the best month yet."

According to Florence Fan some of the state chairmen scarcely need a "special nudge." Continuing their excellent efforts which you may recall we reported on in previous issues are Roberto Estrella, Puerto Rico; Jerry Mars, Vermont; Pauline S. Smith, Georgia; Lola Friars, Washington; and E. W. McKenzie, secretary of the Canadian Audiovisual Association, who continues to send in new members for his chairman, Gordon Kilpatrick.

Utah's chairman Don Brumbaugh has made good his promise to stir up activity in that state, as witness a recent letter from Emil Nyman, secretary of Utah AVID, containing five new memberships and the news that Utah hopes before long to "add more names, enough to make a chapter."

Maryland's Karl Sloop comes up with this promotion plan which we think worth publicizing. As audiovisual assistant in the Central Film Library at Towson, Mr. Sloop is about to issue a ring-bound manual to some 100 AV coordinators in Baltimore County and has requested DAVI flyers for insertion. These will be accompanied by instructions that the application forms can be removed and sent directly to the national office.

Two new membership chairmen appointed since our last report are Marion McHugh, Connecticut, and George V. Kirk, Delaware. This is the first time Delaware has appointed a membership chairman and much credit for the stirrings in Delaware must go to Thomas W. Howie, superintendent of the Alexis I. DuPont Special School District, Wilmington, who has been in touch with the national office in an effort to get a program launched in his state.

Dr. Hyer has taken time off from her many duties to administer a few "nudges" in behalf of the membership drive—these in the form of letters describing the school service plan to some 400 superintendents and principals in Wyoming and 1300 elementary and secondary principals in North Carolina. (The school service plan, as most of you know, is a special arrangement whereby an entire school system is entitled to the services of DAVI for the price of a single membership.) Dr. Hyer says that these two mailings and another now going out to South Carolina are trial balloons to see what can be done to arouse interest in this type of membership which should become increasingly attractive now as schools are beginning to make allowances in their budgets for memberships in professional organizations.

As a final "special nudge" to individual DAVI members we print this from Howard B. Webster, lecturer in education at the University of California, which we think typifies the true spirit of an "every member get a member" campaign:

"I feel strongly that the professional growth of DAVI is the responsibility of its members. Congratulations on your membership campaign and your efforts to promote this feeling of responsibility.

"Enclosed are three memberships. If you can spare a few more applications, I may be able to secure more."

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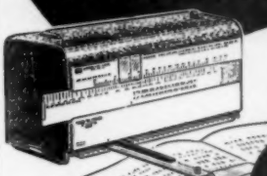

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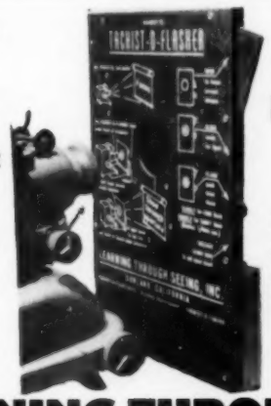

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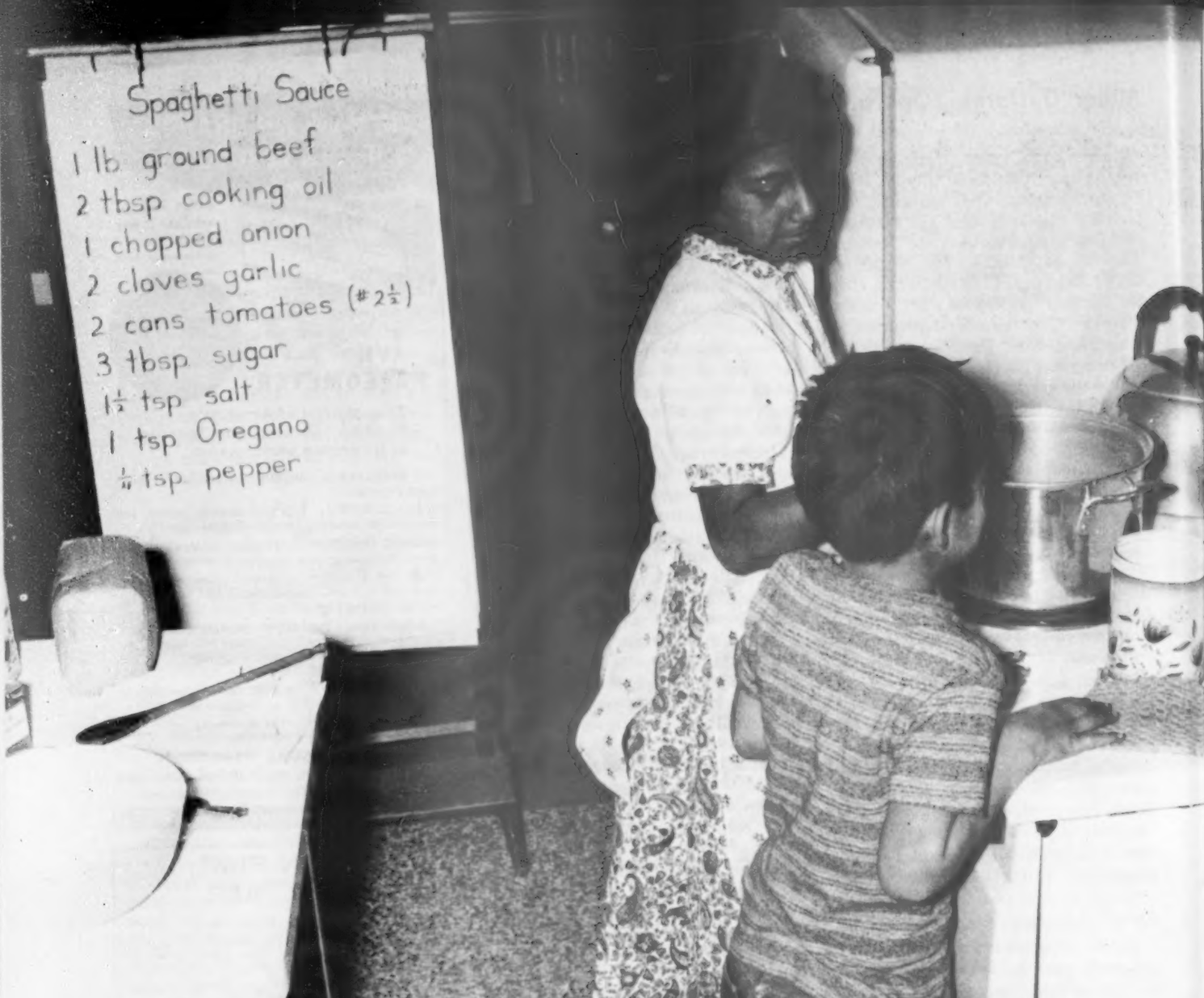

Classroom experiences which mirror activities in the home are favorable learning situations for mentally retarded children.

AV and the Handicapped

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A SYMPOSIUM BY STAFF MEMBERS OF THE BUREAU OF SPECIAL EDUCATION, CALIFORNIA STATE DEPARTMENT OF EDUCATION

WHAT IS THERE about exceptional children that would indicate special consideration in the use of audiovisual materials in learning situations? This question was uppermost in the minds of the authors in relating the objectives of special education to the needs of children in the various situations in which they receive their education and training.

MENTALLY RETARDED CHILDREN

Children who are mentally retarded have special learning characteristics and educational needs. They not only learn at a slower rate than normal children, but seem less able to comprehend abstract concepts. The general reduction in amount and quality of interaction with their environment necessitates the teaching of items which normal children acquire vicariously. Thus teaching procedures used with mentally retarded children should be predominantly concrete and objective and should be supported by pictures, objects, and activities which hold their interest and attention. Classroom activities which mirror the lifelike situations of home and community should be planned as an integral part of the instruction program.

Toward this end many classrooms for ten-year-olds and upward are equipped with a small homemaking unit including stove, sink, refrigerator, and work bench and tool cart for construction activities. This equipment creates a focus for the development of what Dale terms "direct purposeful experiences." (*Audiovisual Methods in Teaching*. New York, Dryden Press, 1949, page 38.) Abstract concepts involving work with words and numbers are made meaningful when correlated with concrete materials and manipulative activities within the child's range of interest and comprehension and common to his everyday environment.

Because of his slow rate of learning, the mentally retarded pupil remains at a specified achievement level for an extended period. Therefore, the same curriculum material must be presented in a variety of ways and applied to a wide range of situations. Audiovisual materials and kinesthetic aids when carefully selected can lend fresh appeal to these teaching situations. For example, mentally retarded adolescents enrolled in special classes at the secondary-school level must apply their addition, subtraction, multiplication and division in situations which require the use of simple business practices involving newspapers, magazines, telephone directories, telegraph blanks, budgets, bills, receipts, checks, bank books, tax forms, etc. A well organized resource file of these materials is a necessary adjunct to the traditional textbook.

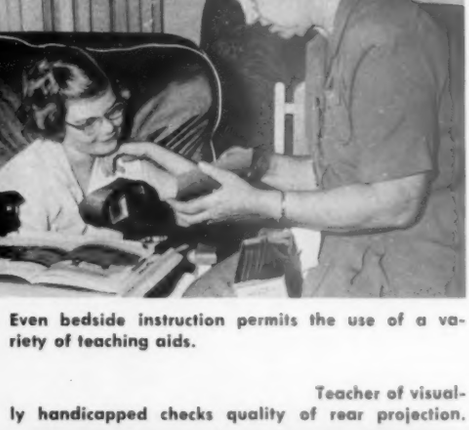
Mentally retarded children are often slow to absorb what they see and hear. They are easily distracted by extraneous noise and confused by a variety of detail. Often they are unable to isolate key figures in an action without help from the teacher. Therefore the opaque projector, glass slide, and filmstrip can generally be used to greater advantage than the motion picture. The teacher and pupils can select points of

Handling concrete objects appeals to the retarded child; holds his interest.

Hospital or school—maps are essential in teaching the crippled child.

Even bedside instruction permits the use of a variety of teaching aids.

Teacher of visually handicapped checks quality of rear projection.



emphasis, dwell on them, and, if necessary, re-run certain pictures in order to clarify points under discussion.

In summary, the special learning characteristics of mentally retarded children require the employment of many audiovisual materials. Since few commercially prepared items are specifically designed to meet the combination of low vocabulary, high interest but slow learning abilities of these children, the special teacher must be trained in production as well as the use of audiovisual materials.

CEREBRAL PALSIED CHILDREN

Cerebral palsied children are limited in their ability to participate in real life experiences. The use of audiovisual materials is a means of bringing the environment within range of their abilities to interact with it, hence these materials have educational as well as therapeutic value.

Through educational filmstrips cerebral palsied children can enjoy many experiences vicariously. The opaque projector, too, is being used increasingly. As a teacher reads to the class, the book is put into the projector with the entire page projected on the screen. In this way the class has the benefit of both visual and auditory channels of learning. It is also possible to teach more concretely such things as color, size, and form discrimination. In many cases the use of projected materials encourages severely palsied children to assume better sitting positions in order to view the screen. This kind of instruction tends to hold a child's attention longer than merely listening to the spoken word.

The variable speed of the Califone (a type of portable phonograph) allows the teacher to gear the speed of the record to the appropriate receptance level of her group, thus permitting greater understanding of the recorded material.

HOSPITALIZED AND HOMEBOUND

During the periods hospitalized and homebound children undergo treatment they generally are able to "attend school" even though their activities are limited. Some of them will be confined to their beds, some to wheelchairs. Others will be in traction or in body casts unable to sit up. The hospitalized children, ranging in age from preschool through high school, will be in wards on different floors. A few will be in single or semiprivate rooms. Many of them may never have had the firsthand experiences other children enjoy in their everyday living—seeing ships and trains, going to the grocery store, supermarket, or library, on field trips, or on week-end trips with the family. How to carry on a school program in spite of physical restrictions and limited firsthand experiences is a universal and major problem of home and hospital teachers.

Portable chalkboards and feltboards on casters facilitate their use for instructional programs in hospitals. They can be made adjustable so as to be raised and moved over the foot of a bed then lowered and placed near the young patient. The chalkboard may have cork on the reverse side for use as a bulletin board. Hooks

placed at the top of the board are a convenient way to carry maps, turnover charts and graphs.

Feltboards serve many purposes in a hospital school —from nursery through high school. Either during or following the telling of a story or in portraying a special design which clarifies relations in geometry, a presentation can be built up piece by piece, dismantled and reassembled for retelling or using with children in other wards. The pieces are generally small enough to be kept in labeled envelopes or small boxes, thus making it easy for teachers to carry them about.

The hospital wagon on casters provides storage space for instructional materials and a work area for the teacher. She must plan and select carefully materials she can use to greatest advantage for the greatest number of children. She must consider the physical ability of her pupils to handle them. For example, small books of light weight are much easier to handle than large books. Sections or chapters may be fastened together with staples or loose-leaf rings in order to facilitate handling. For young children, the single page of a book can be cut and mounted on cardboard. Workbooks for older children may be divided into single page assignments and clipped to cardboards. Flat pictures, mounted on cardboard and covered with cellophane, are much easier for bed patients to handle than are the same pictures in books. Maps, cartoons, charts, and graphs are other kinds of flat material useful for summary and review and less bunglesome for teachers to carry on their daily rounds.

Slides and Filmstrips Specially Adaptable

Slides and filmstrips are especially adapted for home and hospital use as the projectors are small and of light weight. The Viewmaster, Tru-vue, "oldfashioned" stereopticon instrument, and the model 200-Standard Filmstrip Previewer show three-dimensional pictures which enrich and supplement story telling and such topics as science, nature study, and social studies. Rear view projectors can be used in a lighted room at the foot of a bed. Ceiling projectors are used for children who are in body casts or traction, unable to sit up.

Planning constructive activities between lessons requires resourcefulness on the part of teachers and parents. Making puppets and marionettes has a strong appeal to the imagination and provides great satisfaction and pleasure for long quiet hours. The manipulative skills used in construction and the dramatization of experiences related to personal, family, or school problems may be the means of releasing inner tensions of the physically handicapped child. Hand puppets are more easily handled by the bed patient, yet serve the same purpose as marionettes. Cardboard faces on sticks, paper-sack puppets, or those made from socks or milk cartons are light in weight. Crayons for coloring preclude the chance of spilling water colors or paints on bed linens.

Marionettes and puppets made by homebound or hospitalized pupils may be shared either with other homebound children or with classmates, thus giving the homebound a sense of participation.

Radio and television programs supplement and enrich the instructional program for homebound and hospitalized children in science, current events, social studies, music, art and storytelling. Teachers' guides and children's kits are often provided by the stations.

Another successful medium for home and hospital instruction is home-to-school telephone, an electronic intercommunication unit similar to those used in offices but specially engineered for use with telephone lines. The school unit is portable and can be used in different classrooms which permits the high school student to follow a full academic program. Through this system oral activities in the classroom can be heard by the homebound pupil who participates in discussions by pressing a switch. Maximum value is derived by children with at least a fourth-grade achievement level.

VISUALLY HANDICAPPED CHILDREN

Consciously and unconsciously blind people use as audio aids all of the sounds about them. For many years the talking book for the blind has been used by adults; now children of kindergarten age benefit from stories and poems played on these phonograph-like discs. As "resource" and "itinerant" programs have increased in public schools for blind and partially seeing children, ideas have been developed whereby these students have recourse to added audio aids. Some states have used plastic discs (Soundscriber or Dictaphone) for recording books, lessons, tests, typing lessons or even directions for independent study. Recording for the Blind is an organization of volunteer readers with branches in many states. Originally these volunteers recorded books needed by college students only, but it is hoped that as the number of readers increases the service will be extended to high school students.

Tape recordings are used extensively by visually handicapped students at all grade levels. Here, too, many volunteer readers are preparing the recordings. The American Printing House for the Blind is producing tapes known as REAL (Recorded Educational Aids to Learning) for use by students who are legally blind. Some valuable additional aids have been listed in an article, "Auditory Aids for the Partially Seeing," appearing in the Fall 1958 issue of the *Sight-Saving Review*.

A picture projected on a common white window shade can be reproduced as clearly on the reverse side as on the projected side. Through this process, students with limited vision are able to approach the screen closely without blocking the picture stream. To allow the viewer to read the writing the slide is reversed in the projector.

Teachers of children with severe visual problems who are not enrolled in programs for the partially seeing may secure helpful suggestions by writing the National Society for the Prevention of Blindness, Inc. A free catalog listing inexpensive brochures or reprints of articles will be sent upon request. Of particular interest may be catalogs of large print books published by Stanwix House, Incorporated, and the American Printing House for the Blind. Harcourt, Brace & Company has a graded list of books for school libraries in which books with type larger than the ordinary are noted. California is providing

Auditory, visual, and tactile senses are brought into play enabling these deaf children to learn the story of the three bears.

Dolls and cutouts add humor to speech therapy; the child responds.

the basic series of state textbooks in large print and Braille for partially seeing and blind children in the public schools.

AURALLY HANDICAPPED CHILDREN

Children who are deaf or who have severe hearing impairment are unable to acquire spontaneous speech and fluent oral expression as children with normal hearing do. Their inability to hear spoken language leaves them unaware that words are used to receive or convey information or ideas. Lack of communication results in retarding or limiting their intellectual activity, emotional maturity, social competency and economic efficiency.

In the approach to speech development, speech correction, and development of fluent oral expression in deaf children, teachers use a number of sensory approaches. In the education of the deaf the approach is through the visual and tactile senses. In the education of children with impaired but functional hearing the approach is through the auditory, visual and possibly tactile senses. Although the kinesthetic sense is not particularly emphasized it does play an important part in oral communication.

One of the most effective visual aids in the development and correction of the speech of children with impaired hearing is the mirror. Through it visual attention is directed to the movements of the teacher's speech mechanism during speech production. The child thus sees the teacher's lips and tongue at work and is able to observe his own tongue and lip positions, thereby evaluating visually his speech efforts toward the ultimate goal of oral communication. During this process the child is helped through the sense of touch to appreciate whether vocal or nonvocal sounds are involved, and to realize volume and duration of the several speech components as they occur in words and sentences. Hearing aids should not be overlooked where there is even minimal residual hearing.

One of the most frequent audiovisual techniques with deaf children is the field trip, often preceded and followed by pertinent films. Out of this process comes opportunity for lip reading, speech, vocabulary building, oral and written language, and related growth. The correlation of the auditory, visual, oral and verbal learnings with the things to be seen during a forthcoming trip to the zoo are especially important, for such learnings are difficult to acquire by a group of aurally handicapped children while walking and observing the animals and other interesting happenings. Subsequent showings of the film, pictures selected from many sources by the children, photographs taken by the teacher or children with personal or school cameras help in reviewing language of certain episodes. For days these can be a source of pleasant chit-chat normal for hearing children but often lost to those whose hearing is seriously diminished.

For many years teachers of children with impaired hearing have made use of charts, posters, colored pictures from magazines, etc. More recently motion pictures, colored slides, and candid camera shots have become meaningful ways of vitalizing language principles that are difficult to present, practice, and retain unless provision is made for interesting repetition of words and sentence structure.

SPEECH THERAPY AND LIP READING

In one sense speech correction and lip reading instruction are synonymous with audiovisual instruction. Speech development is not a natural phenomenon. It is a learning process for all children, dependent upon oral and visual stimulation and related to audiovisual stimuli in the immediate environment. Likewise, for children with speech deficiencies therapy is dependent upon adequate and accurate oral, aural, and visual stimuli. The child responds to living models, that is, the therapist, teacher, parent, and playmates; and also, directly and indirectly, to many audiovisual materials which excite interest and motivation. In this way, with films, filmstrips, flannel-board stories, slides, pictures, charts, and tape recordings, therapeutic practices are related to environmental experiences in listening and speaking.

Audiovisual techniques are also being used in the promotion of speech and hearing programs. With the assistance of the audiovisual coordinator slides depicting typical program activities can easily be synchronized with sound tape and exhibited effectively in approximately 20 minutes when school trustees are together for regular meetings. Charts and maps are

effective for conveying information regarding specific needs in a given school district. For instance, a map of the area can be spotted with pins of various colors to indicate the distribution of severe or mild speech or hearing cases, or to reveal other administrative problems such as distances between schools and time distribution of the speech and hearing specialist.

Throughout California time has been allotted schools for demonstration programs on television. Speech therapy with children has proved a popular type of demonstration and most helpful in developing public understanding of speech problems and speech therapy, lip reading instruction, and speech improvement for all children.

Creative speech therapists in the state have made contributions to audiovisual materials for use in both "clinic" and classroom. Some have written or collaborated on illustrated speech books and pamphlets which have been published. Others have made recordings which teach the sounds of speech in song form, or in story form with interesting and colorful musical setting. Also developed are excellent materials presenting speech sounds illustrated in color on filmstrips. Other sources of help include pamphlets on puppetry and original flannelboard stories published in educational magazines. A current project of the publications committee of the California Speech and Hearing Association, a nonprofit organization, is the compilation of pamphlets of original flannel-board stories contributed by members of the organization.

Inservice education workshops in speech therapy, development, or improvement, or in other school subjects combined with speech instruction, have provided valuable opportunities for many therapists to demonstrate their collections of original or adapted audiovisual materials, and distribute them to teachers. Among these are samples and patterns, with instructions for production and use, of simple, colorful but inexpensive puppets such as paper-bag and stick puppets. Other patterns are adaptable for use on flannel boards.

In conducting inservice institutes and workshops, state and local consultants in speech therapy and lip reading instruction use charts, flannel-board presentations, slides showing phases of the speech and hearing programs, and films on speech and hearing. Teachers attending the workshops are encouraged to select and to have children select good pictures from commercial advertising in magazines to use in illustrating standards of good speech or current speech projects, and for making large charts to test articulation problems in speech. Pictures are cut out and mounted on colored tape and poster board with the dry-mounting tissue used by photographers, then sprayed with any good commercial spray to prevent them from getting soiled or worn. If well selected, they are adaptable to a number of uses, pack in small space, and last for a long time.

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Art for the Retarded

A RESEARCH EXPERIMENT

RICHARD G. WIGGEN

THIS article is taken almost verbatim from a report submitted by Dr. Wiggin who is art supervisor for the Arlington County (Virginia) public schools. We have chosen to give readers the report in its entirety because we think it a good example of independent research by a small group of teachers who found a creative approach to solving their teaching problems and because we believe their conclusions will be of value to teachers of mentally handicapped children in other subject-matter areas.—THE EDITORS.

FOR SEVERAL YEARS Arlington art teachers Edna Boulware, Betty Blake, and Roy Anderson had been teaching one or two "special" art classes as part of their daily schedules. Normally these classes consisted of from 10 to 25 students of junior or senior high school age (13 to 17 years) grouped together principally because their educational needs called for special help. More recently these students have been defined as "mentally handicapped," and classified into two subgroups: the educable retarded with IQs of from 55 to 75; and slow learners with IQs of from 75 to 90.

As the number of these "special" art classes increased in the Arlington schools the three art teachers became aware of certain problems peculiar to teaching art to mentally handicapped children. Each of them noticed that these students seemed to require a markedly different method of teaching, as well as a different kind of art activity. Each felt that he was groping. The usual drawing and painting activities were not proving popular. Attempts at encouraging individually derived activities failed. And the more the teachers stimulated individual students to create their own projects, the less secure they became.

Thus in the fall of 1957 the three art teachers met with their supervisor, Richard G. Wiggin, to consider the question: "How can we develop an art program which really fits these children?" In the course of the discussion one of the teachers came up with this suggestion: "I think if we know why certain art activities are popular with mentally handicapped children, then we ought to be able to use these principles to help us in choosing additional activities."

As a result the teachers and their supervisor set down a series of steps through which they would attempt to answer the following questions:

- What art activities, materials, and tools are popular with mentally handicapped children of high school age in our schools?
- Why are these activities popular?
- Can a "yardstick" be developed which will predict the degree of popularity of a newly-introduced activity, material, and tool?

Edna Boulware (left) and Betty Blake, two of the Arlington art teachers whose work with retarded children led them to ask searching questions. Shown here with clay sculpture done by 16-year-old pupil.

These were the steps agreed upon to find answers to the foregoing questions:

1. Each teacher compile a separate list of "most popular" art activities.

2. Compile a master list combining these three.

3. Look for recurring characteristics common to these activities.

4. Extract major factors or principles which appear to be basic to these characteristics.

5. Develop a yardstick to rate the relative popularity of newly adopted art activities, using the above characteristics as a "key."

• • •

At the time of these deliberations the small group of researchers in Arlington had "more than a vague awareness" that they were moving towards a larger study of the thought processes of mentally handicapped children. They decided however that this larger objective would be realized quite naturally in the course of acquiring information during each succeeding step in the study.

When the master list was compiled it was found to contain 36 art activities. Upon examining it the group found themselves making such statements as: "Do you notice how many of the activities are three dimensional?" "Look at how utilitarian they are," and "A lot of the activities are more 'industrial' than 'fine art' in character."

These comments were crystallized into a list of 41 short statements, each of which was agreed upon to be a characteristic common to many of the activities.

But which of these 41 characteristics accounted for the relative popularity of the art activities? Until this was known the "key" to the relative popularity of each activity would still be missing. So, with the guidance of Howard H. Hiatt, a consulting psychologist, they used a simple statistical device recommended by George A. Kelly. The group extracted nine characteristics which did account for the relative popularity of the 36 activities. They found that the more popular a specific art activity was, the more it would be likely to contain these characteristics:

- The *material* with which the students work should
  1. have definite weight
  2. be permanent, solid, and hard
  3. be "acceptable" in its raw state and have monetary value
  4. be the type of material which stimulates strong touch and muscle reactions as it is manipulated.
- The *object* made by the student should
  5. preferably be three-dimensional
  6. be made as a gift for someone.
- The *tools* used should
  7. be industrial tools such as chisels, torches, hammers, and saws, rather than "fine arts" tools (brushes, pens, pencils, etc.).
- The *teaching process* used should involve the following steps:
  8. When introducing the activity, the teacher should show a sample finished product first. Then each step needed to complete the object should be described when the students are ready for that step, not before.
- The *activity* should
  9. be one in which daily growth in skills and general progress can be clearly seen and measured by the student.

It was found that the less popular art activities were more likely to contain the reverse of these "key" characteristics. Applying the nine key characteristics to the original list of 36 art activities it was possible to rank them from 1 to 11 in descending order of popularity. Thus, raised copper trays and bowls and leather tooling scored highest and possessed all nine characteristics. Finger painting, painting, and figure drawing scored low and possessed the reverse of all nine characteristics. The 36 activities rated as follows:

Rank	Activity	Characteristics
1.	Raised copper trays and bowls Leather tooling	9
2.	Linoleum cutting and printing Copper repoussé Copper enameling—jewelry Weaving Clay pottery Basketry	7
3.	Copper wire jewelry Wood carving	5
4.	Papier maché (of people, animals) Hooking Stuffed rag animals (girls only) Puppets and marionettes Plaster sculpture	
5.	Plaster carving (abstract, concrete) Clay sculpture Salt and flour plackets	1
6.	Embroidery Crocheting Knitting	—1
7.	Mobiles and stabiles	—3
8.	Paper sculpture (abstract, concrete) Printing (scrap, string, spatter, potato) Paper mosaic	—5
9.	Crayon techniques (melted, resist, etching, side, imprint) Scratch board	—7
10.	Diorama	—8
11.	Painting (outside landscapes) Figure drawing (contour) Water color painting (of fruits and vegetables) Chalk drawings of fall leaves Cut paper, Nature study, and Self-portraits	—9

(Turn to the next page)

From the first phase of their study the Arlington group has tentatively concluded that:

1. It seems possible to develop a yardstick (containing the nine characteristics discussed above) against which any new art activity can be measured.

2. A mentally handicapped child's definition of reality seems to be built around a physical reality which has permanence, solidity and three-dimensional depth.

3. Objects seem most real when they evoke strong tactile reactions and involve large muscle activity of a strenuous nature.

4. The child's definition of reality is further conditioned by the preferences of his adult peers which apparently are for products filling all of the above physical conditions, plus having monetary value and meeting other, less defined, adult standards of craftsmanship.

5. The principal objective of the teaching process should be to maintain and enhance the individual's sense of security. This may even involve turning over a whole class period to the therapeutic "talking out" of personal problems. The student should be able to see daily growth clearly taking place in the object he is making. In the introductory phase of a lesson, sample products should first be shown and each sequential step briefly outlined. The teacher's directions should be thorough and visually clear. Since only simple and obviously easy choices should be offered, creative activity must be held to a reasonable minimum and must be kept on the level of elementary problem solving. The student should be given advance warning before being asked a question and should be free to move about within the work area. Tool storage should be on an individual basis and should be fixed and unchanging.

6. The child's thought process appears to depend upon physical reality for its stimulation. As a result, he appears relatively unable to engage in abstract verbalization or abstract art production. Thus, ideational art activities involving subtle two-dimensional experiences in painting or designing should be kept to a minimum. Instead, his thinking should be stimulated primarily through physical experiences of a concrete and sensory nature. Verbalization of this kind of thinking should not be overstressed. It is preferable to look at his visual products as though they were the "words" through which he attempts to communicate.

• • •

The above conclusions have been merely inferred. Each point is looked upon as a hypothesis. In the second phase of this study (which is taking place this year) the Arlington group hopes to test these tentative conclusions and the validity of their yardstick.

TEACHING SLOW LEARNERS confronted me with the usual problems of the special teacher—lack of materials both visual and academic. Struggling with these obstacles constantly gives birth to all sorts of ideas. As most teachers know, the right combination of ideas will produce a fruitful program for any given group of youngsters. In my case, I was searching for a program with variety, one that would achieve a nice balance between academic work, crafts, and field-trip experiences. I decided on three major units of study, one on bakeries, one on household mechanics, and the last on restaurants and cafeterias.

As the class progressed, there were many times when their questions could not be adequately answered without a first-hand look at the subject under discussion. I searched catalogs, books, pamphlets, and all other available sources for visual materials. I called on businessmen concerning trips to their plants. However, there were certain hazards connected with some of these establishments that ruled out the field trip, particularly for a class of mentally retarded children.

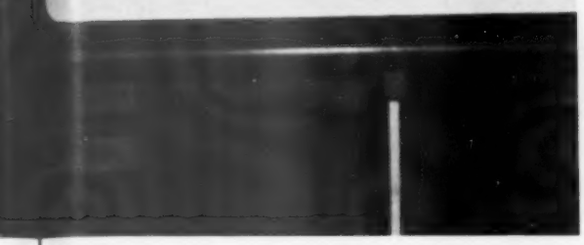
The thought occurred to me that I might be able to tour various plants in the community and bring back the needed information. After conferring with businessmen and explaining my plan, they agreed, and either personally conducted me through their plants or appointed a reliable employee to do so.

With an inexpensive 35mm camera, a few rolls of color film, a flash attachment, and an adequate supply of flash bulbs, I set out on one of the most exciting picture-taking excursions I had ever experienced. I was no expert at industrial photography then, nor am I now, but by following the basic rules, I soon had a series of 2 x 2 photographic slides that proved the answer to my problem of getting concrete ideas across to the class.

A special teacher at Citrus Heights, California (San Juan Union High), the author received his master's degree from Kent State University.

SLIDES for Slow Learners

EDWIN A. O'HARRA



In every case the guide patiently gave information which would make the slides meaningful. The time spent with him was most profitable but the material needed to be prepared in script form in order to be easily assimilated by slow-learning children. As a rule, guides find it difficult "talking down" to slow learners.

My first series was made in a flour mill. Whirling wheels and belts, narrow passageways, and exposed gears made it difficult for two adults (the plant manager and myself) to get around. It is not hard to imagine what a problem of supervision would have been in store for us had we attempted to take a class of youngsters through. My second picture-taking venture was a machine shop. Here the big pieces of machinery—attractive enough to a boy so that he would want to walk up and touch the running mechanism—presented a hazard.

Once the slides had been arranged in sequential series a script was prepared, one that could be read at the time of showing, or, as in my case, read onto a tape and played back during the showing.

I was able to produce a series of slides for each of the three units for the year. The slides eliminated only those field trips which would have been too risky and time consuming; they were not used as a substitute for field trips which did not present these problems.

The slides prepared for the unit on restaurants and cafeterias permitted the class to see the workings of a wide range of restaurants beginning with the small diner on through to the finest restaurant in the city. Knowing that slow learners show an awareness of their community, I was not surprised when they responded with enthusiasm as they viewed these slides telling a story of familiar surroundings.

It was necessary to plan the picture-taking phase of the units early. I kept in mind the fact that once the pictures were taken they still had to be mailed, processed, returned, then organized for showing. In making the necessary contacts I learned that time was saved by starting as high on the supervisory or administrative staff as possible. I discovered that preliminary planning with the plant manager or his representative was of paramount importance. The manager was always informed as to the exact types of pictures I wanted. With this information he could plan my tour with greater facility, making sure that I avoided congested areas and those where I would interfere with normal plant operations. At my request, the host always asked an employee if he cared to have his picture taken on the job. Most employees were cooperative, but occasionally I was rebuffed. I regarded myself, at all times, an intruder and never insisted that I be accommodated. I believed that creating a feeling of good will was important because there was always the chance of needing retakes on pictures that didn't turn out well.

Once I entered the plant I soon discovered that picture taking was the least important of my activities. I realized that my first consideration was good public relations. Making pictures for my class was only part of the job; I was making pictures for the host also. It was frequently the case that the host had never had pictures made of his establishment, and was naturally eager to see mine. I felt this responsibility at the outset, and always extended an invitation for a private showing. This proved beneficial in many ways, for it was only after the host saw the pictures that he really knew what I was taking into my classroom. He was thus better able to supply me with information which eliminated deadwood before it could creep into my script.

In evaluating the use of the 2 x 2 photographic slide with the special class, I found it an excellent visual aid. Moving pictures tend to present sequences of events too rapidly for the slow learner. The stopped action of the slide allowed him ample time to assimilate the ideas I was trying to present. The slides also stimulated discussion about the community and gave the slow learner clearer insight into its industries and service enterprises.

The project gave me an opportunity as a special teacher to sit down with business and industrial leaders in the community and to explain to them my special program for slow learners. The questions emanating from these men, along with their eagerness to cooperate, pointed up the need for further orientation if industrial leaders are to help educators plan a vocational program for retarded learners based on industry's needs.

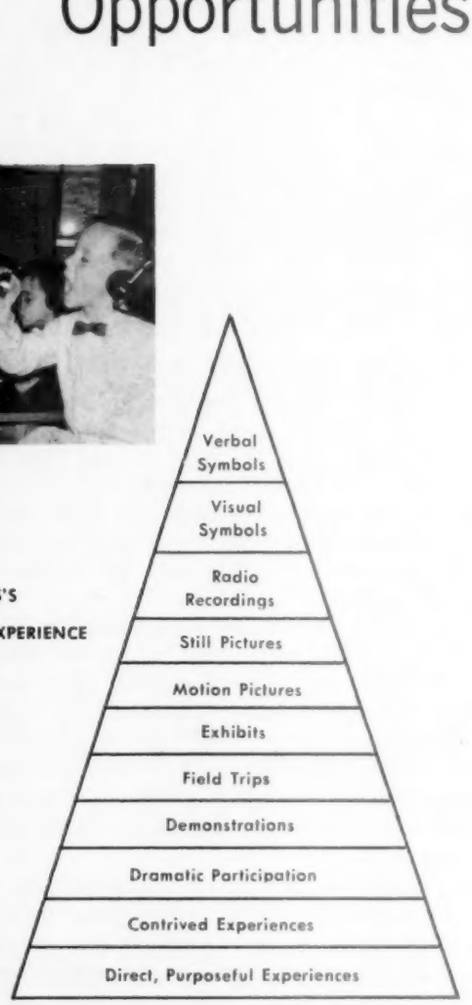
The initial cost of picture taking seemed a little high but it paid for itself many times over in the values accruing to my pupils and in the appreciation built up in the community for the special needs of retarded learners.

THE trend in Michigan, slow although supported by the state department of public instruction, is to integrate deaf children into the regular school program, the author writes. In Ferndale, where special education enjoys a 30-year tradition, the program for some elementary groups of deaf children is continued through the regular high school with the help of a consultant. The Calvin Coolidge School, where Miss Kirchhoff is principal, has a nursery school for deaf children (ages two to three); a pre-school group (four to five) and an elementary group (six to ten). The author, who has taught deaf children for 11 years, studied at Wayne State University and Columbia, and trained for one year at the Michigan School for the Deaf.

THE DEAF CHILD
BECOMES PART OF THE COMMUNITY

Opportunities in **Audio**

LUCILLE KIRCHHOFF



DALES'S
CONE OF EXPERIENCE

THE USE OF VISUAL AIDS in the education of deaf children has always been a "must," for the deaf child has had to use his eyes to do his hearing for him.

It was not until after World War II that audio devices acquired extensive use. Before that time hearing aids were not, as they are now, perfected to the point where almost all children can be reached by sound without injury to the ear. Now, with the combined use of sight and sound, almost miraculous things are being done in the education and training of the deaf child. It has, for instance, been possible to eliminate the mechanical speech and flat toned voice so common a few years back when children were taught speech through the visual-tactual method alone.

We special educators have known for some time, as have general educators, that the best learning takes place when all of the senses are involved in an experience which is of interest to the child. We therefore provide for our deaf children every first-hand experience that is safe and within reason. We use Edgar Dale's cone of experience as our guide so that in every learning situation each level on the cone is used if at all feasible, always beginning with the first-hand experience and building upwards.

Let me give you an example of how a typical learning experience in a deaf class is handled. When a topic is chosen by the children—the interest must come from the children since that is the way our

curriculm is built—it is the responsibility of the teacher to provide for them as many and as varied contacts with the topic as possible. Suppose the group has chosen, "Bread—How It Is Made." The teacher brings ingredients into the classroom so that children can have the experience of making bread—tasting, touching, smelling, and so on. A field trip to a bakery permits children to observe the processes of bread-making on a large scale. Movies, filmstrips, pictures, recordings and other materials are made available to the teacher. Arithmetic, science, health, music, and art are integrated wherever possible. The word *bread* and all the words associated with it are used in lip reading, speech, hearing, reading, and writing.

We call this our "five-point approach," since every new thing taught the child follows this pattern. This is the way we build our language for the deaf child. We no longer have them memorize language rules, stories, questions and answers in the manner common to the education of the deaf for a good many years. Language is now made meaningful and is incorporated into everyday living.

But in order to make all of these experiences possible it is necessary to give help to the teacher. In the Ferndale schools we have a "learning materials" teacher for almost every building whose job it is to provide classroom teachers with every available material. It is her responsibility to arrange for field trips, transportation, moving pictures, tape recorders, phonograph recordings, pictures, displays, books, student operators, etc. Since this teacher is assigned to one building only, her assistance is invaluable to the classroom teacher. She is aware at all times of projects or units being carried out in each class.

To enable the deaf child to share in a free democratic society, certain factors must become a part of his training as soon as he is found to be deaf and must be continued throughout his school life. They are:

- A fulltime hearing program
- A good parent program
- Integration with hearing children
- A nursery school program
- Cooperation of the medical profession
- Specially trained teachers
- A child-group centered curriculm
- Physical conditions conducive to learning (includes hearing aids)

A fulltime hearing program is fundamental since every bit of residual hearing must be developed. We have yet to find a child in our deaf program who does not have some residual hearing. Through constant use of a hearing aid and auricular training, sound takes on meaning which never existed theretofore. It is in this way that we build a meaningful hearing vocabulary which in time makes it possible for deaf children to be integrated into classes with hearing girls and boys. Even though their hearing never reaches perfection, combined with lip reading it permits them to function almost like hearing children. Here, complete cooperation of parents is essential, since hearing must be continued in the home as well as at school. Electrical and battery units are therefore used in the home and classroom both. A small unit is worn at play, to and from school, and in the class into which the child is integrating.

Wearing a hearing aid is much like wearing glasses if you are myopic. You see well while you have them on; without them you are lost. The same holds true for these children. The can fall back on their lip reading should there be a mechanical breakdown, but lip reading alone is never as effective as the combined use of sight and hearing.

Integration must begin at an early age. At Calvin Coolidge we begin at two years, since we have a nursery school program. The children integrate first in a play situation. Gradually we give them more and more contact with the other children until demands on hearing, lip reading, and speech are heavy. In order to communicate in a hearing class, every word, concept, or idea that the child has learned in his special class is used over and over again until it is a part of him.

Accent on Good Human Relations

Integration is a painstaking process. The teacher of the deaf works very closely with the teacher who will in time receive the child in her class. Perfect cooperation and understanding must be established between these two. The "regular" teacher must want the child in her classroom. At no time should a deaf child be placed in a class where the receiving teacher is uninformed or considers the child a burden. The children who receive the deaf child into their class must want him and must have complete understanding of his handicap and the equipment it requires.

A constant education program is necessary for the entire school in which special classes for the deaf are inaugurated. Hearing children should make group visits to deaf classes. Movies should be presented to the student body, picturing the education of deaf children in other schools throughout the country. Deaf children should be included in all activities of the school. Parents of hearing children should observe special classes and parents of deaf children should be encouraged to join PTA groups with other parents. Demonstrations of how deaf children are educated should be available to service groups in the community. If these children are to grow up, marry, live and work in the community, an understanding of their handicap must be established.

The nursery school, we feel, is one of the most essential parts of our program for the deaf. Unless a child receives early training in the use of sound and is fitted with a binaural hearing aid, his subsequent development never reaches its full potential. It is at this early age that a child's speech patterns are begun and his language developed. If speech is not started immediately when normal speech begins in hearing children, the results are never quite the same. His adjustment, his integration—in fact his whole life is greatly dependent upon his first years of training.

SEERLEY REID

Seerley Reid,
Chief,
Visual Education Service,
U. S. Office of Education

Captioned Movies

FOR YEARS blind persons throughout the United States have been able to "see" the words in books through listening to recordings, popularly called "talking books," furnished by the Library of Congress. Now, 25 years later, a companion service has been established by Congress giving deaf persons the opportunity to "hear" the words in motion pictures through reading "captioned films" furnished by the U. S. Office of Education.

The two programs have a similar purpose—that of making available to persons with physical impairments cultural and educational experiences which otherwise would be denied to them. Both are services humanitarian in nature and significant examples of progress toward the democratic ideal of equal opportunity for all.

Public Law 85-905, entitled "An Act to provide in the Department of Health, Education, and Welfare for a loan service of captioned films for the deaf," envisions the following objectives:

(1) "to bring to deaf persons understanding and appreciation of those films which play such an important part in the general and cultural advancement of hearing persons;

(2) "to provide, through these films, enriched educational and cultural experiences through which deaf persons can be brought into better touch with the realities of their environment; and

(3) "to provide a wholesome and rewarding experience which deaf persons may share together."

In order to carry out these objectives, the Act specifies that the Secretary of HEW shall have authority to

(1) "Acquire films (or rights thereto) by purchase, lease, or gift.

(2) "Provide for the captioning of films.

(3) "Provide for distribution of captioned films through State schools for the deaf and such other agencies as the Secretary may deem appropriate to serve as local or regional centers for such distribution.

(4) "Make use, consistent with the purposes of this Act, of films made available to the Library of Congress under the copyright laws.

(5) "Utilize the facilities and services of other governmental agencies.

(6) "Accept gifts, contributions, and voluntary and uncompensated services of individuals and organizations."

One of the more intriguing and vexatious questions raised so far concerning the meaning of the language of the Act concerns item (4) and its relationship to the rights of copyright owners. It appears, on its face, to infringe upon the rights of copyright owners and has caused some concern among motion picture production companies. The Department of HEW and the U. S. Office of Education have made clear, however, their assurance that any use made of the films deposited at the Library of Congress under the copyright laws will not infringe upon the proprietary rights of copyright owners.

Public Law 85-905 was passed late in the second session of the 85th Congress and was approved by the President and enacted into law on September 2, 1958, eight days after Congress adjourned. No funds have so far been appropriated for its administration and operation. However, the Office of Education and the Department have requested funds for its inauguration in fiscal year 1959-60. The Act authorizes appropriations up to $250,000 annually.

In anticipation of the program getting under way next summer, the U. S. Office of Education held a conference of leaders of deaf institutions and organizations in November in order (a) to explain to leaders of representative organizations concerned with the deaf the progress and status of the loan service of captioned films for the deaf authorized by the 85th Congress, (b) to discuss with the conferees certain legal and program questions relative to the establishment and operation of such a service, and (c) to secure advice and counsel from the conferees.

Present at this conference were Edmund B. Boatner, superintendent of the American School for the Deaf and president of Captioned Films for the Deaf; Cecil Dickson, assistant to the president, Motion Picture Association of America; Max Friedman, president of the Athletic Association of the Deaf; Marshall S. Hester, superintendent of the New Mexico School for the Deaf and president of the Conference of Executives of American Schools for the Deaf; Boyd E. Nelson, director of special education, New Jersey Department of Education; and Clarence D. O'Connor, superintendent of the Lexington School for the Deaf and vice president of Captioned Films for the Deaf.

Also, L. G. Derthick, U. S. Commissioner of Education; Robert S. Bray, chief, Division for the Blind, Library of Congress; Leonard M. Elstad, president, Gallaudet College; Mary E. Switzer, director, Office of Vocational Rehabilitation; Charles Gallozzi, assistant chief, Division for the Blind, LC; James F. Garrett, assistant director, rehabilitation services, OVR; Raymond D. Hurley, Committee on Labor and Public Welfare, U. S. Senate; Romaine P. Machie, chief,

services for exceptional children and youth, USOE; Jules P. Rakow, American School for the Deaf; Boyce R. Williams, consultant, deaf and hard of hearing, OVR; and others. The writer was conference chairman.

It was recognized by all that this was a pre-program planning conference and attention of the conferees was directed toward general questions of purpose and direction in conformance with the language of the Act. In general, the conferees approved the following outline of operational steps proposed by the Office of Education:

- Establishment of criteria of selection governing the types of films to be included in the program and the relative balance among various types.
- Selection, based upon the criteria established, of specific films deemed appropriate to be included in the program.
- Negotiation with owners of proprietary rights to secure licenses to caption individual films and to make and distribute copies thereof for exhibition to groups of deaf persons.
- Composition (working and placement) of captions to be inserted on a particular film.
- Composition (lettering, art work, and photography) of the captions and insertion into or superimposition onto a duplicating negative of the film.
- Reproduction from the captioned duplicating negative of the required number of projection prints.
- Contractual arrangement with an established distributor (or distributors) of 16mm films to provide prints, upon request, to groups of deaf persons.

Numerous questions were raised and suggestions made concerning each of these seven items and while no final decisions were reached, it was generally agreed that regulations could be drafted to promote the purposes of the Act and also protect and further the interests of the motion picture industry.

The past, as explained above, is prologue. The future will, we believe, see the accomplishment of objectives envisioned by the Senate Committee on Labor and Public Welfare:

"The establishment of a loan service of captioned films for the deaf and hard of hearing in the Department of Health, Education, and Welfare would provide advantages to this handicapped group of our citizens similar to those provided the blind by the Talking Book for the Blind Program. That program established in 1933 and administered by the Library of Congress has over the years afforded blind persons of an opportunity to enrich their lives by being able to listen to recordings of historical and fictional stories as well as educational and cultural compositions.

"There are available today many educational films which are made accessible to schools and other organizations by trade associations, industries, labor unions, and the like. Since these films are accompanied by a sound track, they are of little, if any, use to deaf schools and organizations. By captioning these films, they can become of inestimable value to the deaf, and especially to the deaf child, in increasing his educational opportunities."

Such is our challenge. I trust we shall meet it.

TALKING BOOKS

BESIDES THE SEEING-EYE DOG, the best thing that ever happened to the blind population of this country is the "talking book." At least, so a number of blind persons have told Robert S. Bray, chief of the Library of Congress' Division for the Blind. A talking book is a word-for-word recording of a printed text on 33⅓ rpm discs, and Mr. Bray administers the program that, over the past 25 years, has built up a library of some 3500 titles distributed to approximately 50,000 blind "readers" throughout the country.

The Division supplies 30 distributing libraries with several copies of each title which are made available on free loan to blind residents of the United States and its Territories. Included in this free package is the life-time loan of the sturdily built record player known as the "talking book machine." When asked if some blind people prefer to buy their own machines, Mr. Bray said that a few do, but that the "intent of the law was to provide the whole package free." The law in this case is the Pratt-Smoot Bill passed by Congress in 1931 which appropriates funds currently exceeding $1 million annually for talking books and books in Braille. (There are still about 10,000 Braille readers in this country, Mr. Bray said, mostly persons blind from birth who learned Braille in school.)

Mr. Bray's division selects the titles for the talking book program and places orders with two studios who make all the arrangements such as obtaining the necessary rights and hiring readers to make the recordings. All told, the cost of each copy runs to approximately $24.

High on the list of popular selections are the *Reader's Digest*, the Bible, mysteries, and Westerns. The *Reader's Digest* is distributed on a cooperative basis, the publishers furnishing the copies and the Division the distributing facilities. The Division itself distributes practically no magazines, and the books selected are primarily for entertainment reading. (See page 69 for new *Newsweek* service.)

Similar Services Abroad

Most European countries offer their blind citizens services comparable to that of the Library of Congress, Mr. Bray said, and added that Sweden has put all of its talking books on tape. The Library of Congress is giving some consideration to tape, but Mr. Bray foresees no immediate changeover. Tape, however, is used in many community projects springing up around the country, sponsored by Lions Clubs and other organizations and recorded by volunteers.

Mr. Bray pointed out that shortly after Thomas Edison invented the "talking machine" he predicted that one of its important uses would be the one now being brought to fruition in this country by the Division for the Blind, its several supplementary services, and other volunteer groups.

For full details on the talking-book program, write the Division for the Blind, Library of Congress, Washington 25, D.C.

LORRAINE GALISDORFER

Props for the Partially Seeing

UTILIZATION OF AUDIOVISUAL TECHNIQUES takes on new values when applied to the teaching of partially seeing pupils. Inasmuch as the chief avenue of learning—the use of the eyes—is limited the teacher must redouble her efforts to provide learning experiences that are purposeful, concrete, and creative and at the same time keep constantly in mind the eye comfort of her pupils. Hence, she measures the values of audiovisual techniques to the extent that they effectively substitute audio experiences for reading; to the extent that visuals can be made large and clear, bringing details to within comfortable range of the pupil's vision; and to the extent that models and other concrete objects permit the learner to employ his tactile sense. In short, what is wanted for these children is a multi-sensory approach to learning. Because of their seeing handicap they are prone to limited backgrounds of experience, short attention spans, and periods of eye fatigue.

(For purposes of this discussion, partially seeing children are those who are essentially sighted, that is, they have a visual acuity of 20/70 or less in the better eye after refraction or correction. Thus their learning experiences do depend upon the functioning of their sense of sight as well as upon their other senses.)

It goes almost without saying that audio materials which are used effectively in many regular classrooms are particularly a boon to teachers of partially seeing children where visual ease is a constant consideration. Recordings are useful for enrichment in citizenship, social studies, music and art, reading and literature, science and health. They also provide background information, leisure time activities, song and rhythm experiences, biographical materials, and so on. Tapes help students check progress in reading, present script programs of news events and plays, record poetry, prepare assignments and practice typing lessons. In the latter two instances the teacher soundscribes materials on tapes or discs. These can be filed for future use by pupils in preparing work assignments or as practice guides for typing. Teachers of partially seeing children can also successfully use tape recordings combined with other aids—for example, to accompany a moving picture with two roller frames.

AN itinerant teacher of the visually handicapped for many years, the author is currently on the staff of the Kenmore (New York) public schools. Her master's degree is from the University of Buffalo and her advanced certificate in special education from Syracuse.

Radio and television are other resources that should not be overlooked by the teacher of the partially seeing —they are especially useful for current happenings and important cultural events. Here, however, the teacher must be careful to check the physical comfort of the listeners.

In using the chalkboard—a practical medium for visualizing concepts and relationships—visibilty should be the topmost concern. Soft, large, white chalk is recommended. Diagrams, charts, graphs, maps, and posters are helpful for reviewing facts and for clarifying ideas and relationships. It is important that they be kept large, without gloss, and free of too many details. In working with visuals, the teacher of the partially seeing has several essentials to keep in mind: she should bring the visual image closer to the learner, or if necessary, increase its size; she should expose less stimuli on a working space at one time, increase intensity of light, but prevent glare and shadows.

The opaque projector is a useful aid in this respect, permitting pupils to view the screen from a comfortable distance. Magnifiers are valuable for enlarging small print. There are various makes on the market and it is usually wise to seek an eye doctor's recommendation as to their use. The projection magnifier is a portable optical instrument that enlarges reading material in books or newspapers three to five times, projecting the image on a built-in screen. It can be used for reading pamphlets and magazines.

Good Uses of the Feltboard

The feltboard or flannel board is an excellent device for the partially seeing child because it permits him to handle the pictures, letters, or numbers placed upon its nubby surface. Good uses are: teaching number concepts and facts, introducing spelling words, and dramatizing stories.

Puppets, models, specimens, and objects also make vivid impressions and appeal to children's sense of touch. Simple science experiments involve children in handling the materials, permitting concentration without eyestrain and lengthening the attention span as the child eagerly waits to see what happens and to draw conclusions.

The partially seeing pupil profits from the use of some mechanical devices. A book rack or easel holds the book closer to the eyes yet enables the reader to maintain a comfortable position. The typewriter saves time and visual effort in preparing assignments. Typing is usually taught to partially seeing pupils beginning in about the fourth grade. A typewriter with

large type and books with large or magna type compensate for visual limitations.

Many learning experiences which employ both sound and sight and which are common to good teaching practices for all children are mentioned here because they are especially applicable to the partially seeing where the short attention span, eye fatigue, and limited experiential backgrounds are factors. Resource persons, field trips, visits to libraries, museums, parks, farms, industries, art galleries, and utilities are examples. Photography adds to the understanding and appreciation of these activities. The unit method of teaching can be recommended on the same basis: it revolves around some problem of interest to the children, involves both pupils and teachers in the planning and utilizes a variety of audiovisual techniques.

The creative teacher of partially seeing pupils will also make use of role playing, a simple technique permitting the outflow of inner feelings and tensions and encouraging children to use their imaginations.

In summary, it appears that the partially seeing child will, like other children, profit from intelligent use of audiovisual tools. His need for them is however greater. Because of his limited vision he must be permitted to draw more fully on his other senses in the learning process. Upon the teacher of the partially seeing falls the double responsibility of selecting the appropriate materials, then adapting them to the particular concern of her pupils. Concentration upon these essentials will facilitate her task—clarity, adequate size of images, physical comfort, auditory stimulation, first-hand experiences or actual contact with real things and people, manipulation of objects, and appeal to a combination of the senses.

A Brief List of Sources

1. American Optical Company, Instrument Division, Buffalo 15, New York. THE PROJECTION MAGNIFIER.

2. Children's Reading Service, 1078 St. Johns Place, Brooklyn 13, New York.

3. Department of Audiovisual Instruction, NEA, 1201 16th St., N. W., Washington 6, D. C. *National Tape Recording Catalogue.*

4. Educational Record Sales, 146 Read Street, New York 13. RECORDS FOR CLASSROOM AND LIBRARY.

5. Enrichment Materials, Inc., 246 Fifth Avenue, New York 1. LANDMARK RECORDS.

6. Folkways Record and Service Corporation, 117 West 46th St., New York 36.

7. Greystone Corporation, 100 Sixth Avenue, New York 13, *Catalogue of Records.*

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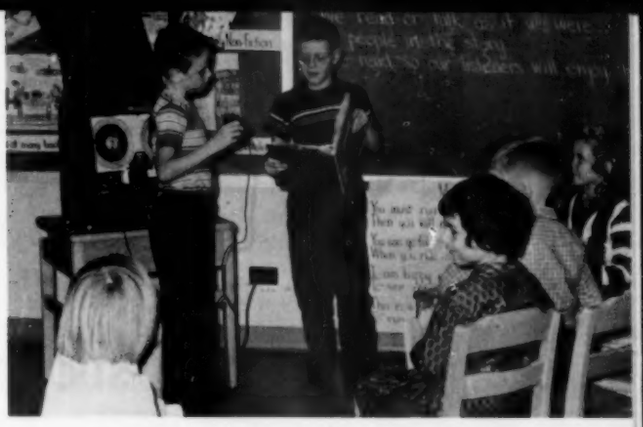
See also references on page 49.



Audio devices are a godsend

The sense of touch adds another dimension to learning

The book rack provides physical comfort

The projection magnifier enlarges print threefold

Typewriting helps to conserve vision

ROBERT DeHAAN

BRIGHT STUDENTS CONCEPTS and AUDIOVISUAL AIDS

THE FORMATION AND MANIPULATION of concepts occupies a central place in a student's learning experiences during his school career. The purpose of this article is to examine the role that AV materials can play in helping, especially the superior student, form and manipulate concepts.

Concepts are mental constructs which stand for concrete objects or events. They are the labels that a person attaches to his experiences. They help a person reduce the complexity of his environment, identify objects, decrease the necessity of constant learnings, provide direction for his activities, and bring order and relatedness among classes of events(1).

There are many different kinds of concepts. They differ on a continuum from concrete to abstract. Some concepts lie very close, as it were, to sensory-motor experience. Labels for objects—table, cat, salt—are examples of such concepts. Others refer to more diffuse experiences that are not so easily conceptualized. Concepts referring to processes such as *love* and *democracy* are of this kind. Finally some concepts have and need no concrete objects or experiences as a referent but refer rather to relationships among concepts. Mathematical and logical concepts are of this nature.

Concepts also differ in another broad respect in terms of the response they elicit(2). One class of concepts is called *formal* concepts. They have to do with intrinsic attributes of objects or events. When a teacher asks, "What are the characteristics of chlorophyl?" he is calling for formal concepts. Such concepts are perhaps the most commonly used in the curriculum of most schools.

A second kind of concept is called a *functional* concept. Such concepts are extrapolative. That is, they refer to the next steps to be taken in practical problem situations. They are also interpolative, having to do with gaps that need to be filled or defects to be remedied. "What are the next steps needed to complete the social studies project?" is a question calling for functional concepts.

A third class of concepts is called *affective*. These concepts call forth emotional responses. They are concepts that are used in literary productions. When a teacher asks "Will you describe summer heat in such a way that your reader will *feel* the heat?" he is calling for affective concepts.

Most concepts can be traced back to sensory-motor experiences, the stuff from which they are formed. The things that pupils see, feel, hear and smell are the raw materials for the mental manufacture of concepts. Educators are rightly concerned with increasing the breadth and intensity of senory-motor experience in the lives of their students. The richer the background of a student's experience, the more material will be available upon which he can conceptualize.

Pupils appear to differ in their preference for various concepts and perhaps in their ability to deal with them. Jim, for instance, was a student who preferred to deal with formal concepts. He readily turned to science, mathematics and logic where such concepts predominate. Jane, on the other hand, preferred functional concepts. Practical problems interested her, and she did well in solving them. Jack, however, preferred affective concepts, those that deal with the emotional connotations of symbols and concepts. Poetry stirred him; scientific definitions, however, left him cold. Practical problems bored him.

No student, of course, presents such clearcut differences as those described in the students above. Such types are not found in real life. Rather, every student is a mixture, having various proportions of each preference as Jim, Jane and Jack had.

Is "Conceptually Talented" More Apt?

Pupils also display great variation in respect to the attainment and manipulation of concepts. Some students form concepts quite rapidly and effortlessly. They can attain high levels of abstraction; they can readily deal with concepts at a remote level from the concrete sense experience. Other students need to spend greater amounts of energy in attaining concepts. They may not be able to rise much above the first level of abstraction. They do well, if they can name and label the simple events and objects in their environment. The former students are called gifted, academically talented, or advanced students. Perhaps they should be called conceptually talented. The latter are called average students, or if below average they may be called retarded or slow learners.

Let us suppose that Jim, Jane and Jack are mentally advanced, or gifted students. In their own way, they are equally intelligent, although their preferences for various kinds of concepts may lead into different intellectual pursuits. They all attain concepts readily. They manipulate them easily. They can move to a high level of abstraction if they choose. What is the function of audiovisual materials for such intellectually talented students?

Dr. DeHaan is professor of psychology and chairman of the psychology department at Hope College, Holland, Michigan. He was contributor to EDUCATION FOR THE GIFTED *the 57th yearbook of the National Society for the Study of Education. He also served on the yearbook committee.*

In the first place, the audiovisual materials can provide systematic, controlled sensory-motor experiences from which concepts can be formed and manipulated. It is no longer necessary for educators to rely on the haphazard experiences of a happenstance environment. Teachers can now bring into the lives of their pupils the sensory-motor experiences that they consider essential for the development of certain concepts. For instance, if the concept of classical music needs to be taught, the teacher has countless records at her command to exemplify such music and thereby help students attain a concept of it.

In principle, this function of AV materials is no different for gifted students than it is for the average students or slow learners. All students need a rich background of sensory-motor experience no matter what their conceptualizing processes are.

AV Geared to Mental Capacity

For this reason, AV materials for bright youngsters need to be carefully planned with an eye to their mental capabilities and characteristics. It is as futile to expect the same film, for example, to serve the needs of both gifted and average and below average students, as it is to expect one set of textbooks to meet all their needs. Brighter students need more advanced AV materials just as they need more advanced and complex books. They may not need to manipulate colored blocks of wood in order to learn how to add or subtract. They might, however, need AV materials to help them conceptualize algebraic relationships, while their more concrete minded age mates are manipulating colored blocks in order to attain arithmetic concepts(3).

It should be emphasized that the use of AV materials for bright students is not an end in itself. Neither are they effective unless accompanied by opportunities to conceptualize. High level conceptualization will not automatically follow upon the use of AV materials. Such materials are the starting point for the development of concepts. Students may never advance beyond the starting point unless teachers stimulate them to do so. The students need to be encouraged to ask questions, seek answers, and formulate concepts from the raw material that is presented to them.

AV materials serve a second function. This one is peculiar to the gifted student. Since he forms and manipulates concepts with relative ease, he may fail to appreciate the difficulties of his less conceptually minded friends. A real problem of communication sometimes develops between bright and average students as a result. AV materials can help bridge this gap. They can be used as a vehicle for gifted students to communicate abstract concepts—particularly formal ones—to their less conceptually minded classmates. AV can help bright youngsters "gear down" their abstract ideas to more concrete ones. This is using AV in reverse.

What kinds of audiovisual materials are suitable for bright students such as Jim, Jane and Jack? What kinds of sensory-motor experiences do they need to enhance the formation and use of concepts? Do such students need more sense data provided in AV materials, do they need different kinds of experience, or do they need fewer such experiences?

Suitable AV materials for Jim are any sensory motor experiences that stimulate the formation of formal concepts and of abstract, relational manipulation of such concepts. Models of the human body, for example, or of the brain or heart, models of molecules and of the solar system fit into this category. If Jim can actually see a real heart or brain or molecules or stars so much the better. But pictures of these same systems or objects will also help develop a wide range of experiences. With these materials Jim can explore the nooks and crannies as well as the wide open places of the universe. They provide him with the raw data on which his conceptualizing powers may work.

In bridging the communication gap between him and his less academically talented classmates, Jim might build such models himself and demonstrate therewith the concepts he has learned. He might, for instance, make a model of a tooth and explain how tooth decay happens. Possibilities of this kind are limitless.

Not only is model building an important technique for communication of abstract concepts; it is also an important device, used even by mature scientists, to help them understand the nature of the phenomenon they are studying. When scientists began to build a model of the chemical substance of the genes, for instance, they developed new understandings of the genes that had escaped them up to that point (4). This principle is true for gifted students, too. The building of a model of an atom, for instance, will enhance their understanding of it.

Jane's main conceptualizing response lies in another direction—that of problem-oriented thinking. It is possible, however, that she might use much of the same AV materials used by Jim, but for a different purpose. Rather than thinking about the intrinsic attributes or properties of such objects and experiences, she would turn to the question of their practical application.

Raw Material for Functional Concepts

The film *One World* produced in the University of Chicago Laboratory School is an excellent example of a problem solving approach to a learning experience that would appeal to Jane. It gives an account of how the students in that school solved the problem of constructing a mammoth globe to depict the world. Such or related practical projects are the raw material for the development of functional concepts.

Many excellent human relations films also provide the raw material necessary for developing functional concepts that are so important in the field of human relations. They can become even more effective to this end, if they are used imaginatively. Cutting the film off before the end, for example, and then asking the youngsters, "What would you do at this point?" or "What is missing at this point?" can become an excellent device for stimulating the formation and use of functional concepts. This use of films helps the youngsters fill in the gaps and extrapolate their thinking.

(Continued on page 68)

Audiovisuals in the Portland Program

CLIFFORD W. WILLIAMS

Above, using a tape recorder in a science special interest class; below, gifted students make microprojector.

DIFFERENCES IN CHILDREN AND YOUTH are more than height and weight and age and gender. These are only the easily seen and measured. Other differences, less evident, are perhaps more decisive and ultimately more predictive of future performance.

Such a difference is that which children bring to the viewing of a film or a television broadcast, the hearing of a record or a radio program. It is the same difference which causes children reading the same book to learn and remember to a greater or lesser degree. It is essentially the difference in intellectual make-up which causes some children to learn rapidly and others to learn slowly, to generalize quickly or to ponder over relationships. But it is more than that. The different interests through which children view a learning experience is of equal importance. The child who views a film through the eyes of an interest in science will remember different facts and will ask different questions from the child whose interest is in art.

In considering the place of audiovisual instruction in the education of advanced students, differences in degree of ability to learn and differences in interests are extremely important. Advanced students can benefit from an effective audiovisual program to the degree that they are given consideration when the program is planned. The fact that bright students are typically quite verbal and generally read with rapidity has given rise to the erroneous opinion that the materials of sight and sound are not for them, that only direct instruction through books, lectures, and related discussion are appropriate.

With audiovisual materials, as with books, their appropriateness for the group is dependent on their proper use. Where bright children are concerned, the choice of material and equipment should be governed by the desire to provide them with the material of research, and ultimately, the material of thought and decision.

Don't Rule Out the Projector

To confine a randomly selected class to a film projector and series of films which all view together is as questionable as limiting the class to one textbook with the same daily assignment for all. The inappropriateness of the textbook for advanced students does not rule out the library. For the same reason, the fact that many films may not include effective learning experiences for brighter pupils does not rule out the projector.

In the schools of Portland, Oregon, audiovisual education has been an integral part of instructional procedures for many years. When the administration of the district established a program for gifted and

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Supervisor of the Gifted Child Program in the Portland public schools, Mr. Williams has had 21 years of teaching experience in public schools. Like Dr. DeHaan he was a member of the yearbook committee and contributor to EDUCATION FOR THE GIFTED. *He is also a contributor to the 1959 yearbook of the John Dewey Society. Mr. Williams serves as consultant to a number of West Coast school systems on educating gifted high school students.*

talented children in 1952, emphasis on improving the instruction of these boys and girls was accompanied by a sharp rise in the use of films, recordings, tapes, and transcriptions. Maps, globes, and exhibits were in greater demand than ever.

The facilities of the schools and the central Instructional Materials Department were taxed to provide for the demand; budgets for equipment and materials were increased. Maintaining and increasing the academic excitement of interested students and motivating under-achieving students of high ability became great challenges to teachers and increased the consumption of the wares of audiovisual instruction.

Adjustment Within the Classroom

The Portland program for advanced pupils in the elementary schools is based on adjustment of instruction within regular classes. Giftedness is defined broadly enough to include 10 to 15 percent of the pupils in the district. Consequently every teacher has in his class at least three or four children who are identified as sufficiently advanced to warrant concern. In the upper elementary grades special interest classes for pupils particularly advanced in mathematics, science, language arts, foreign language, and art are established to supplement the instruction of the regular class. In each case, the responsibility for appropriate instruction rests with every teacher in every class.

Differentiated projects and assignments, books of different reading difficulty, enrichment and accelerated courses all have a part in the instructional program for advanced pupils. In the same way, different and more complex audiovisual equipment and materials can aid in the learning program of these pupils.

A microprojector would be very useful at times in upper elementary classes but such an instrument is rarely available. At Kennedy school in a seventh grade class, a group of four advanced students interested in botany prepared microscope slides. Searching for means of projecting their slides for group study and discussion, they focused their microscope in the upright position, removed the eyepiece, and tilted the instrument toward a white sheet of paper in a box. They placed a 2" x 2" slide projector as near the hole in the stage of the microscope as possible and had their microprojector. The work which followed was of intense value to the small group and made general reports to the total class much more meaningful.

In this single example are many of the ingredients of good instruction. Pupils are working in a small group on a project of educational value and of interest to them; research techniques are being used in their project; group discussion supplements individual study; audiovisual aids are geared to the project; imagination and ingenuity are utilized; reporting group discoveries or decisions to the class is a valuable final feature.

Regardless of the fact that rarely are sound films appropriate to the learning needs of all children in a class, generally speaking the darkening of a room and the mechanical set up of machine and screen automatically determine that all will be viewers. The same is true of recordings, tapes, radio, and other sound producing equipment.

Since this is true, the classroom teacher must capitalize on the fact that children bring to an audiovisual learning situation their varying capacities, interests, and backgrounds. Bright children should be expected to view a film or hear a radio program with different aims. With the right type of preparation they should learn at different rates from the same experience.

A sixth grade teacher at Alameda school has her three most advanced pupils act as an audiovisual board for the class. They select the films, filmstrips, recordings, and transcriptions from the Instructional Materials catalog, order and preview them. They prepare introductory material and follow-up questions for use by the class. When the audiovisual learning experience lends itself to such treatment, the board prepares different follow-up studies for groups within the class, including themselves. This is done with the help of the teacher who says, "John is interested in this aspect of the film. Prepare questions for him." "Mary needs help with this aspect. Prepare questions for her."

In another class a teacher has two distinct composition lessons. One is concerned almost entirely with ideas, imagination, use of vocabulary. The other is a technical class concerned with handwriting, punctuation, and capitalization. The opaque projector is used often in both classes to project examples of student work.

Maps, globes, charts, and graphs are particularly adapted to the interests of advanced or gifted pupils. The symbolic language appeals to pupils with able minds and in these materials symbols are the shortcuts to understanding. The ideal classroom has maps appropriate to the learning which is taking place. Particularly useful to bright students is a great variety of maps showing various parts of the earth, a variety of projections, and embodying diverse information about people, politics, economics, climate, and physical features of land, including land underlying oceans.

Academically Talented Mapmakers

Since rarely are all the maps that are needed available, an interesting assignment involves advanced pupils in making their own. A seventh grade class at Vestal school needed a map of Europe as it would have appeared in 1790. Since none was obtainable two pupils produced one through the use of opaque projector, butcher paper, and considerable study in history books and encyclopedia.

In a study of map reading at another school, a committee of pupils produced a series of maps of a fictional continent. The group consisted of chief cartographer, projection consultant, artist, and map skills consultant. The first two were the class mathematicians who laid out the cross lines of latitude and longitude, determined the place of the continent on the globe, and decided the type of projection to be used. The committee as a whole decided on the ex-

(Continued on page 68)

Protagonists of Quality, Quantity

General Sessions

1 **Keynoter**

LINDLEY JOSEPH STILES

Dean of the school of education at the University of Wisconsin and formerly at the University of Virginia, Dr. Stiles has directed major efforts in these two posts to improving standards in teacher education and extending research to teachers. He has stressed the need for more and abler young people in the teaching profession, better working conditions, and higher pay. Among other writings he is co-author with his wife and two daughters of a book of verse, *Moods and Moments*, royalties from which go to scholarships for teachers of handicapped children.

2 **Princpals in Education Act Discussions**

ROY M. HALL, assistant commissioner for research in the U. S. Office of Education and the man who has been closest to Title VII, will give an overall explanation of the National Defense Education Act. A symposium follows.

LLOYD J. ANDREWS, superintendent of public instruction for Washington state, will chair the session and participate in the symposium which brings together representatives of subject matter areas and other interest groups to discuss the meaning of the Act for their fields.

Concurrent Sessions

Teacher Education

DAVID PASCOE, director of instructional materials for the La Mesa-Spring Valley (Calif) School District, will speak from a background of thorough acquaintance with AV practices in his state, gained in part as consultant to the state department of education, (See his report on AV competencies, January AVI.)

ETV

KEY SPEAKER ROBERT O. HALL is on leave from the University of Southern California where he was head of the cinema department. He is currently serving on the program staff of the Educational Television and Radio Center, Ann Arbor, Michigan.

Buildings and Equipment

IRENE CYPHER takes over as chairman of the session on Buildings and Equipment for A. J. Foy Cross who is on lecture tour in South America. Associate professor of education at New York University, Dr. Cypher is prominent in DAVI, writes regularly for *ED Screen* and the *Instructor*.

Foreign Languages

HOWARD LEE NOSTRAND is professor and chairman of the department of Romance languages and literature, University of Washington, and a member of the Advisory Committee for Title VII of the National Defense Education Act. Dr. Nostrand will chair the foreign languages session.

MICKEY BLOODWORTH

Education

SEATTLE / APRIL 13-16

3 Hidden Persuaders

How effective are hidden persuaders in educational films and how can they be detected? JOHN O. FRITZ will examine these questions in the light of his recent case study. A Canadian citizen who holds degrees from the Universities of Manitoba, Minnesota, and Indiana, Dr. Fritz is assistant professor of education and director of the audiovisual center at the University of Chicago.

Honorary Chairmen

E. W. CAMPBELL, Superintendent, Seattle Public Schools

L. M. DIMMITT, Superintendent, King County Schools

Curriculum

CHESTER D. BABCOCK will chair the joint ASCD-DAVI session on curriculum. Executive director of the department of curriculum and instruction for the Seattle Public Schools, Dr. Babcock is a member of the ASCD Board of Directors.

Research Design

KENNETH D. NORBERG was recently appointed program consultant to the New Educational Media Branch, a post set up by the U. S. Office of Education to administer Title VII. As main speaker he will be joined by Hideya Kumata, Paul Wendt, Walt Wittich, Bill Allen, Jim Brown, and Herb Hite, all DAVI.

Added Attractions

JULIEN BRYAN, colorful producer of documentaries whose cameras have taken him into almost every country in the world, was the last foreign photographer out of Warsaw when Hitler invaded in 1939. Poland revisited will be the substance of his presentation which no DAVI member can afford to miss.

J. STANLEY McINTOSH's report on CINE will be thorough and inspiring. Executive Director of Teaching Film Custodians, Dr. McIntosh was among leaders who saw the need for a committee to coordinate film selections shown abroad. He has been a staunch supporter during CINE's trial period.

For Your Information

A Report on the National Defense Education Act

by Anna L. Hyer

THE MAJOR DEVELOPMENTS in the implementation of the National Defense Education Act this past month concern Title VII. The intent of this Title, you will recall, is to improve the quality of education through more effective use of newer techniques of communication. The means for achieving this goal are specified as research and dissemination of information.

Instructions for the preparation of research proposals, a set of questions and answers related to Title VII, and other helpful materials are available now from the Program Consultant, New Educational Media Branch, U. S. Office of Education. Thirty copies of a research proposal are required.

The Advisory Committee called for under Title VII (see page 27, January AVI) met in Washington December 15-17 and spent a major part of their time determining operation policies.

The Committee postponed action on research proposals until its next meeting to be held in March with another following in May. The cut-off date for proposals to be considered at the March meeting is February 1 and the May meeting, April 1. As of January 5, eighty to eighty-five proposals had been received.

The Committee did approve six contract proposals for dissemination of information on the new educational media under Part B of Title VII. These were the proposals approved:

1. To develop a plan and suitable procedures for establishing a research information service.
2. To produce a series of four to five filmed case studies reporting good teaching use of the new media.
3. To develop plans, develop and conduct workshops, traveling seminars, and demonstrations concerned with educational media.
4. To conduct a series of studies to determine the need and the feasibility of achieving "bibliographic control" of audiovisual materials.
5. To develop and publish information materials relating to the improvement of educational uses of the new media.
6. For the preparation of exhibit and display materials.

• • •

Many people are asking what attitude will be taken concerning the purchase of equipment or production of new materials for projects submitted under Title VII. It seems doubtful that the Advisory Committee will rule out all equipment costs in advance. However the general opinion seems to be that funds should not be used for (1) capital outlay expenditures, (2) purchase of equipment that would normally outlast the experiment, or (3) equipment which would be used for purposes other than experimentation. Similarly it might be assumed that where the development of materials constitutes a necessary part of research itself and where the necessary materials do not already exist, their production would be counted as a justifiable research cost.

Whereas verbal materials as such do not fall within the scope of Title VII, it is apparent that many audiovisual materials contain verbal content; hence printed verbal materials of some kind would fall within the province of Title VII but only insofar as they serve in some supplementary relationship to audiovisual materials.

These criteria for the evaluation of research proposals under Title VII have been issued:

Educational Significance: The proposed research, experiment, or demonstration is concerned with the development of new knowledge directly applicable to the communication process in education or with new applications of existing knowledge to the problems of communication in education; the project is focused primarily on educational problems of major importance; primary consideration is given to new projects or to those where duplication can be defended as a scientific check on previous assumptions or conclusions; the anticipated outcomes of the project have potential value to education on a nationwide basis.

Research and Experimental Design: The problem which the project concerns is clearly defined; the proposal reflects adequate knowledge of other related research or activities; the questions to be answered, hypotheses to be tested, or demonstrations to be conducted are well formulated and clearly stated; the proposal outlines fully the procedures to be followed and, wherever applicable, includes information on such points as sampling procedures, controls, types of data to be gathered, and statistical analyses to be performed.

Personnel and Facilities: The director or principal investigator is someone who has previously done research in the area involved and/or who has clearly demonstrated competence for directing work in that area; the institution(s) or agency submitting the proposal has or will obtain facilities generally adequate for carrying out the research, experiment, or demonstration.

Economic Efficiency: The suggested approach to the problem is reasonable in terms of overall cost as compared with the cost of other possible approaches; there is a favorable relationship between the probable outcomes of the project and total expenditures in terms of overall value.

Other Progress in the Act

Herbert Smith, professor of education at the University of Kansas and president of the National Science Teachers Association, has been employed to head up a group of subject-matter specialists in the areas of science, math, and foreign languages. The duty of this section of the Office of Education will be to advise with state departments of education on the implementation of state plans.

As of early January, 27 tentative state plans had been submitted under Title III and 17 under Title V. Approval of several of these is expected momentarily. Twenty-eight plans have been approved under Title VIII as well as three of the 16 plans submitted under Title X.

The 30 to 40 guidance institutes planned for the summer of 1959 (see page 27, January AVI) will probably offer work for about 1200 students. The four or five language institutes also planned for this summer will involve approximately 500 students. In February a list of the institutions offering the language institutes and the first of probably three lists of institutions offering guidance institutes will be available from the Office of Education.

About 1100 institutions of higher learning have requested funds for student loans under Title II and about 80 to 100 have submitted proposals for graduate fellowships.

Literature in Brief

Films on the Handicapped is a 56-page catalog by Jerome H. Rothstein and Thomas O'Connor published by the Council for Exceptional Children, a Department of the National Education Association, 1201 Sixteenth St., N.W., Washington 6, D. C. The catalog is an annotated bibliography and source book of films, filmstrips, slides, and recordings treating the diagnosis, care, education, and rehabilitation of persons with various kinds of handicaps. Materials are listed in these categories: child growth and development; general references on handicaps; specific references including acoustical handicaps, emotional maladjustments, mental retardation, neurological handicaps, orthopedic disabilities, social maladjustments, speech deficiencies, special health problems, and visual handicaps. Films on rehabilitation are also listed, followed by four pages of film sources.

The original catalog copyrighted in 1955 and priced at $1 has been followed by supplements in 1957 and '58. Directory with 1957 and '58 supplements, $1.30.

Exceptional Children, the official journal of the Council for Exceptional Children, is published monthly September through May. It prints half a dozen or so articles of general interest to the field and several departments, one of which is Audio-Visual Materials, compiled by Gwen Retherford, department of special education, Wayne State University. A substantial section is devoted each month to a comprehensive review of current literature in the field of special education. A list of article reprints and other publications is available free from the Council upon request.

How To Teach Shut-In Students by Telephone by J. A. Richards is published by the Special Education Division, Executone, Inc., 415 Lexington Avenue, New York 17, and available from them or your local telephone office.

Practical suggestions for handling many of the educational problems of home-bound and hospitalized children are contained in this 21-page handbook for teachers, administrators, parents, and physicians. The manual brings together in convenient form all the facts about teaching by telephone. Considered first are data for the school administrator—cost and financing, administrative problems of larger districts, teacher orientation, etc. Otherwise the booklet is given to techniques for the classroom and homebound teacher. A final section makes suggestions to enable the shut-in to derive maximum results from the operation. A nationwide survey of needs and problems was conducted before the preparation of the handbook and the final manuscript was edited by an advisory committee including school administrators and specialists in education of handicapped children.

Films World Wide describes titles available for loan from the International Rehabilitation Film Library of the International Society for the Welfare of Cripples, 701 First Avenue, New York 17. Films are listed in such categories as accidents, amputee and prosthetics, arthritis, blind, cerebral palsy, multiple sclerosis, muscular dystrophy, paraplegia, poliomyelitis, refugees, special education, speech therapy, and vocational rehabilitation and training. The catalog is free from the Library which was created to promote international exchange of 16mm films dealing with physical rehabilitation in the "broadest sense."

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KEYSTONE Overhead Projector

AV and the Portland Program

(Continued from page 63)

tent of the continent and sketched in outlines. The artist completed the work under the direction of the map skills consultant whose responsibility it was to see that needed features were included for instructing the rest of the class in map reading.

Too often the making of visual aids is done in such a way that the construction becomes an end in itself. This is particularly true when considerable time is consumed in the construction of globes and maps. The few examples cited here involved valuable learning experiences but it is generally of greater value to have accurate visual aids available for bright individuals to pore over. A truer picture of future leadership probably is seen in the capable child who is studying and reflecting on books, maps, charts, and graphs than in the child who is making maps or devising study questions for other children.

Another instructional aid that has been used increasingly to the advantage of capable pupils is the tape recorder. A teacher at Creston school records the speaking qualities of each child's voice at the beginning and end of the school year. During individual counseling periods, the voice is analyzed and exercises for improvement are prescribed. This is, of course, advantageous to all children but is particularly advisable for those who will be in positions of leadership through the years. The effectiveness of their efforts may well depend on the quality of voice with which they express themselves.

The tape recorder can be used for a variety of purposes by individual pupils. Jack was a seventh grade pupil in one of the Portland schools several years ago. His teachers had long been aware of his exceptional capabilities but his reluctance to put any effort into school was a constant source of concern to the school and of irritation to his parents. Jack was invited to enroll in a special interest class in science since he seemed to know a great deal about many phases of the subject. A spark of enthusiasm for school began to show, but it was a suggestion born of frustration and resignation by his homeroom teacher that made an achiever out of Jack.

As usual, he did not want to write a book report although he didn't mind too much reading a book. The teacher told him if he didn't want to write it why didn't he record it and they would play it in class. Jack read a biography of Abraham Lincoln and began to put his report on the tape recorder. After listening alone to a playback of the first part he seemed suddenly to come to life. He wrote a play, enlisted others to perform the needed parts, took the recorder to the music room and dubbed in appropriate music, re-taped the fifteen minute performance which included his own narration in a "You Are There" style. He did not realize that he had done much more work than was required—including the writing of a play.

From that one experience, Jack became an increasingly effective student. Before promotion to high school he had his amateur radio operator's license and as a high school student he built and operated a commercial radio station complete with paying advertisers and paid student employees. He maintained a scholarly attitude and did exceptionally well in science and mathematics.

Audiovisual instruction has been encouraged in the program for advanced pupils in Portland. It takes its place as an effective learning tool along with the library, the laboratory, and the discussion group. Present plans call for expanding already available equipment and material by adding foreign language recordings for both elementary and high school classes.

Gifted pupils generally learn through the same senses that others do. The difference is in the degree of sensitiveness of the intellectual equipment in an individual. To withhold from capable children the learning which can be gained from audiovisual tools is to intentionally undereducate them.

Students, Concepts, and AV

(Continued from page 61)

For Jack too, there are opportunities for enhanced concept formation, and manipulation through the use of AV materials. Jack's preference is for emotional concepts which leads him toward the artistic rather than the scientific or functional productivity. Any film, tape recording, or object that will stimulate the production of affective concepts is appropriate for him.

Take the film *Hunter in the Woods* for example, which shows what happened to a hunter who took his gun and looked for wild game to kill. A stirring film because of its straight forward simplicity, it is an excellent stimulus for creative writing, the thing that Jack does so well.

Any artistic materials such as good recorded music, art portfolios, recorded poetry, can be used to this end. The production of posters, moving pictures, TV programs, the making of tape recordings are also excellent ways for Jim to utilize AV materials for the output of affective concepts.

AV materials are never an end in themselves but are always a means toward helping students conceptualize more effectively. In order to fulfill this purpose AV materials must be geared to the abstracting power of the pupils and to their preferences for formal, functional, or affective concepts. Teachers who use AV materials in this way will make a significant contribution to the education of bright students.

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NEWS NOTES

SOME HALF A DOZEN schools in southern Illinois will participate in a research project financed in part by a $2000 grant from Coronet Films. Conducted for Southern Illinois University by Paul R. Wendt and Gordon K. Butts of the University instructional materials department, the project will attempt to teach a full year of world history in tenth grade in one-half year's time. Sixty-one sound-color films furnished by Coronet will be shown at the rate of one every other day. The project in each school will be carried out by two classes taught by the same teacher—one experimental, the other, control. Eugene Cottle, associate professor of education at the University of Wyoming, is acting as coordinator. Eastman Kodak is cooperating on the equipment end.

NOTE—FILM PRODUCERS

Entries for the 1959 Venice and Edinburgh film festivals are now being considered for screening. Deadline is March 1. For application forms write to: CINE c/o Division of Audiovisual Instructional Services, NEA, 1201 16th Street, N. W., Washington 6, D. C. Please do not send film prints until requested.

Report on the Gifted

The full report of the nationwide conference on academically talented students held in Washington, D. C. last February and reported in part in the April 1958 AVI is available from the NEA at $1.50. Write to: Project on the Academically Talented Student, NEA 1201 16th Street, N. W., Washington 6, D. C. The 160-page report is entitled *The Identification and Education of the Academically Talented Student in the American Secondary School.*

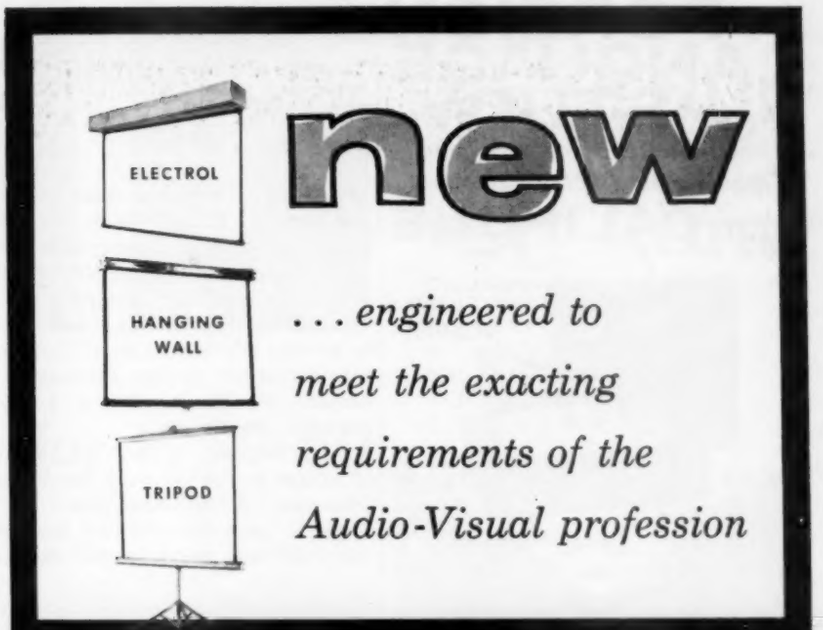
Talking Magazine

The American Printing House for the Blind, Inc., in cooperation with *Newsweek* has inaugurated a brand new news service for blind Americans. Beginning at the first of the year the entire contents of *Newsweek* will be recorded each week on long-playing records, and distributed to individuals, schools, and circulating libraries for the blind.

Job Changes

Charles J. Vento, formerly assistant director of the curriculum materials center, Alameda County Schools, California, accepted a position with the ICA in the Philippines, effective last month.

At the end of January Hank Ruark left NAVA where he has been director of information for the past two years to accept a position with the Oregon state department of education as school specialist. The DAVI national staff will miss the friendly cooperation they have had from Hank Ruark while at Fairfax, but they wish him well in this new and challenging position. He reports that he will be working principally with "acquisition" programs under Title III of the National Defense Education Act, with some responsibilities for AV programming and planning.



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GOODBYE, KITTY!

DAVI WILL NEVER BE quite the same without Kitty Welch Hedquist whose ten years of service have given the headquarters office at NEA its one element of continuity during a period of rapid organizational growth. Kitty, in private life Mrs. Alec J. Hedquist, terminated her services January 23 to prepare for the arrival of an heir sometime in March.

Since she came to the NEA just out of college in 1947 to work for Vernon Dameron, Kitty has seen DAVI through some lean years. For two years she was the only staff member

She grew up in DAVI

assigned to Mr. Dameron who was DAVI's first permanent executive secretary, and to this day Kitty can't give a clear account of what she did in those first months. "I was the secretary," she says, "only I couldn't take shorthand and I didn't type."

In 1950 the national office all but folded up for lack of staff. Mr. Dameron had resigned and Kitty was back at Penn State working for her master's degree. Francis Noel was president and Lyle Ashby acted as staff contact at NEA headquarters. Kitty recalls that she came in during Christmas and Thanksgiving vacations to help Dr. Ashby who, with Dr. Noel, was planning the 1950 convention — then held in conjunction with the AASA annual meeting. The next year when Jim McPherson was at the helm Kitty came in again "just to help out temporarily until the Convention was over." Since that time Kitty has played the main role in planning and coordinating six DAVI conventions. (She left the DAVI office last month with the seventh well underway and in the hands of Mickey Bloodworth.)

But to say that Kitty was convention coordinator doesn't begin to describe her function in the national office. She was the office authority on DAVI Constitutional questions, knew all about the budget and rode herd on it relentlessly. (Dr. Hyer in fact attributes DAVI's capacity for program expansion despite a small budget to Kitty's watchful eye.)

For years Kitty read almost everything that came into the office and thus became a prolific source of DAVI information. After Dr. Hyer was appointed executive secretary she took over as managing editor of AVCR. She knew just about everybody in the field—their abilities and idiosyncracies. No one could have been more loyal to the precepts of the organization and at the same time less in awe of the "big names." Ten years of sitting through board meetings and executive sessions, leadership conferences and inner caucuses had left her with a realistic judgment of organizational affairs.

Even in her undergraduate days at Penn State (where she was named beauty queen in 1947) no one would have denied that there was plenty of grey matter under that golden hair. Kitty brought to her job at DAVI an analytical mind that was never satisfied with superficialities, and while it was agony to watch her approaching a deadline, the end result was always good. She had a creative streak a mile wide, was a perfectionist when it came to the demands she made on herself (and on her colleagues), and was a good writer (if sufficiently prodded).

The fact that Kitty had literally grown up in DAVI made her an invaluable source of help in shaping policy. Her contacts around NEA headquarters and her knowledge of other NEA departments were indispensable to new department heads coming in. Her refusal to take herself too seriously was a big point in her favor among fellow workers.

And while there may be no such person as the "indispensable man" in any organization, each individual has nonetheless a unique role to play, and some more unique than others. Certainly no one will ever take Kitty's place in DAVI. — A.F.

DAVI Triumvirate for 1959-60

THE COUNT OF THE BALLOTS at DAVI headquarters Monday, January 12, revealed that James D. Finn (center) and J. J. McPherson (right) would join Walter S. Bell to form the top triumvirate in DAVI for 1959-60.

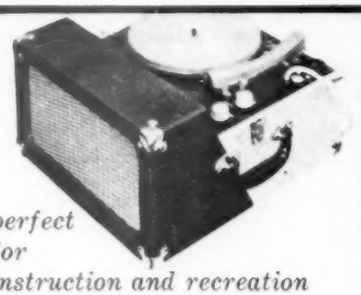
Dr. Finn, chosen president-elect, is professor of education and chairman of the audiovisual department at the University of Southern California. Dr. McPherson, new vice president, is chairman of the audiovisual department at Wayne State University and former executive secretary of DAVI. Chosen as delegates-at-large to the DAVI Board of Directors were Virginia Kelly, audiovisual director, Kanawha County Schools, West Virginia; Horace Hartsell, associate director of the audiovisual center and associate professor of education at Michigan State University; and Lee E. Campion, director of the audiovisual department, Cooperating Schools of St. Louis County, Missouri.

Election officials representing three segments of DAVI membership—the public schools, the military, and business—were Mrs. Louise B. Bennett, materials center, Prince George's County (Maryland) public schools; Edwin M. Logan, curriculum department, Naval Training Publications Center, U. S. Naval Receiving Station, Washington, D. C.; and Herman S. Weinstein, director of Educational Services, Washington, D. C.

Mrs. Bennett and Messrs. Logan and Weinstein arrived at NEA Headquarters shortly after 12 noon to lunch with members of the DAVI staff in NEA's new cafeteria before taking up their official task. In behalf of the national office, Dr. Hyer thanks these DAVI members for giving their time to the work of the organization.

Thai Visitors

As one of their last ports of call in this country, Revadee Vongpromek and Prayong Boonmongkol visited the DAVI office enroute to their native Thailand after one and one-half years at Ohio State under the ICA program. The former, a science and math instructor in a teacher's college at Chiengmai, studied with Dr. Woelfel, and the latter, a secondary teacher in Bangkok, with Dr. Dale. During their brief call at the national office, the visitors remarked that they could envisage the use of TV for adult education in their country, but not for teaching children. Both enrolled as DAVI members.



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EDITORIAL | *Anna L. Hyer*

SHADOW PHOBIA

THE PROVERBIAL GROUNDHOG comes out once a year, according to legend, and if he sees his shadow returns to his underground home. A peculiar fellow, Mr. Groundhog! One would think that he would be so happy to see a little sun after his stay underground that he would make the most of it. But no; he seems to feel more comfortable if gray skies greet him.

Is Mr. Groundhog really peculiar? It takes little reflection to recall numerous illustrations of humans—both individuals and groups—who have worked and waited long for some breakthrough only to hold back when it came because they were afraid to meet change. Could it be that Mr. Groundhog's behavior seems peculiar because, at worst, his withdrawal tendencies are exhibited only once a year?

Is our record as educators as good as the groundhog's? Research and technical advances have opened up numerous avenues for instructional improvement. Have we used these avenues or have we, instead, taken one look and then crawled back into our old holes, afraid of our shadows?

Look at the reactions of educators to proposed uses of mechanical and human resources to save teacher time. One of the major complaints of teachers is that they don't have time to perform adequately their professional duties. However, every really new approach to releasing teacher time has met with opposition from within the profession.

The new media of communication are a case in point. Research shows that their use saves teacher time, yet they have met with apathy or opposition. Part of the problem is a basic reluctance to accept change, but part can be attributed to the methods of introduction.

The early AV educators, for all their missionary spirit, were a traditional lot. They introduced AV materials at the grass roots level starting with the classroom teacher. They spoke of AV materials as "aids" to the teacher and emphasized their "enrichment" value. (Many teachers naturally complained that they didn't have time for additional enrichment materials.) AV materials were to be used following already established teaching methods.

Later when a little research was done indicating that a complete course could be given via film with results as good as those obtained with conventional teaching methods (using as a measure the usual factual tests), these findings were played down. They had to be. We had already put our eggs in the "films-will-not-replace-the-teacher" basket. We were afraid to step out with the idea that films could do some aspects of teaching as well as the teacher and thereby release time for other professional teaching functions.

Television pioneers, seeing the slow acceptance of earlier AV materials, followed a different course. Aiming their acceptance campaign at a prestige group of lay leaders and educational administrators, they largely overlooked the important role of the classroom teacher. Whereas the early audiovisualists had been content to put their new wine in old bottles, a few TV extremists, with their claims for total teaching via TV, seemed bent on throwing out the entire concept of bottles. Thus in the beginning years apathy tended to characterize the attitude of teachers toward films and opposition their attitude toward TV.

Just as the profession has been unwilling to embrace mechanical devices in order to save teacher time, so we have opposed use of human resources. Use of non-professional teacher aides has been resisted for fear they would be assigned professional duties. Professional assistance at times has also been rejected. For example, overworked AV supervisors have opposed librarians' services for cataloging and distributing non-book instructional materials. The basic problem it appears then is not opposition to mechanical or human aides *per se* but rather immobilizing fear of sacrificing old and known values for the unknown.

The new media communicators could break this impasse by courageously taking the lead in introducing ways of utilizing the media which will release teacher time for professional work that can be done only by the teacher and at the same time will increase his prestige and satisfaction in his work. Specifically we could substitute for the concept of *class size* (25 students per class) the concept of *ratio* (one teacher for each 25 students). This could conceivably make it easier to increase teaching staffs.

Varying Class Size

In practice there is tremendous difference between these two concepts. Proper use of the new media may render the former inefficient. The latter allows for varying class size depending on the students and the learning problems—100 students to see a TV presentation, 10 in a seminar, and two in a reading class. Thus we could better meet the needs of students as well as the needs of teachers for more time for curriculum planning, work with the gifted, and the like.

If the new media specialists cease to be afraid of their shadows they can be instrumental in rewriting the job description of a teacher. Paul Revere was a good silversmith; the old family doctor a good practitioner; and Mark Hopkins a good teacher; but times change. As Walter Cocking said recently: "When we think of the age we are living in and the changes, technical and otherwise, which have come, there has been no other business which has had so little change as education."

At the new Fuhrmann Jr. High School in Warren, Mich.—plans of which were exhibited by AASA—John I. Clifton, Chairman of the Audio-Visual Coordinator's Committee for the Warren Consolidated Schools, says:

"Convenience frees teachers to teach... we like it in the design of our school... we like it in Kodak Pageant Projectors."

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